

GENERIC TYPES OF NEARCTIC REPTILIA AND AMPHIBIA.

BY ARTHUR ERWIN BROWN.

By the adoption of the new Article 30 of the International Zoological Code at the Boston meeting of the seventh Congress in August, 1907, the methods of nomenclature are brought measurably nearer to uniformity; perhaps as near as is possible under any set of rules, for it must always be true of inelastic rules—and fortunate that it is so—that they cannot excuse the individual from the exercise of independent judgment in cases such as those where diverging opinions may fairly be held as to their application. Absolute agreement is not likely to be reached until, in respect of the past, names themselves are formally adopted by general accord, instead of rules.

So completely representative a body as the International Zoological Congress having unanimously adopted the new Article, the way is made easy for the minority of zoologists who are dissenters as to some of its provisions, for they may now be willing to yield their practice to so great a preponderance of opinion in matters which are those only of convention.

For this reason the Code is here followed in all essential details, even to the acceptance of undefined genera, such as those of Fitzinger in the *System Reptilium*, in place of others which in the author's own opinion have a better claim to be preferred. But it is not now profitable to discuss the question.

For most of the genera here included types have been ascertained from time to time as necessity required, but the whole list has now been revised in accordance with the present rule.

No full synonymy of the genera has been attempted, the names cited as equivalents being only those that have been in recent use for the whole or a part of the contents of the one adopted.

REPTILIA.

The name was first used by Laurenti (1768) for his three divisions, (I) *Salientia*, (II) *Gradientia*, (III) *Serpentes*, and included all reptiles and amphibians. The correct limits of the class were first laid down by Gray (*Annals of Philosophy*, (2), 10, p. 194, 1825).

CROCODILINI.

First separated as a distinct order, under this name, by Oppel (*Ord. and Fam. Rept.*, p. 19, 1811). By Linnæus they were placed in his genus *Lacerta*. By Laurenti in *Gradienia* with lizards and tailed amphibians. By most other early authors under "sauriens" or *saurii*, usually with lizards. "Emydosauriens" was used by Latreille (1801) and Blainville (1816). This was Latinized into *Emydosauria* by Gray (1825). *Loricata* Merrem (1820) was used twenty-eight years earlier for a subdivision of edentate mammals by Vieq. d'Azyr (*Syst. Anat. des Anim.*, 1792).

Crocodilus Laur. (*Syst. Rept.*, p. 53, 1768).

Type by tautonomy *Crocodilus niloticus* Laur. (= *Lacerta crocodilus* Linn. part.).

Alligator Cuvier (*Ann. du Musée*, X, p. 63, 1807).

Type by elimination *Crocodilus lucius* Cuv. (= *Crocodilus mississippiensis* Daudin).

TESTUDINATA.

Oppel (*Ord. and Fam. Rept.*, p. 3, 1811). Turtles were placed in the genus *Testudo* by Linnæus. They were not mentioned by Laurenti. According to Dr. Stejneger they were named *Testudines* by Batsch (1788). They were called "cheloniens" by Brongniart, Daudin and Cuvier. *Chelonii* by Latreille (*Hist. Nat. des Salamandres de France*, etc., p. xi, 1800) and Duméril (1806). *Cataphracta* Link (1807). Dr. Stejneger properly objects to the use of the mere plural of the generic terms *Testudo* and *Chelonia*, and accepts Oppel's name rather than resurrect the obscure *Cataphracta* Link, four years earlier.

ATHECÆ.

DERMOCHELIDÆ.

Dermochelys Blain. (*Bull. Soc. Philom.*, 1816, p. 111).

This genus was based upon the "tortue a cuir" (= *Testudo coriacea* Linn.).

= *Sphargis* Merrem (1820), same type.

THECOPHORA.

CHELYDRIDÆ.

Chelydra Schweig. (*Prod.*, p. 23, 1814).

Monotype *Testudo serpentina* Linn.

= *Chelonura* Fleming (1822). Same type.

Macrolemmys Gray (Cat. Sh. Rept., I, p. 48, 1855).

Monotype *Chelonura temminckii* Holb.

= *Macrochelys* Gray (1856). Same type.

CINOSTERNIDÆ.

Cinosternum Spix (Spec. Nov. Test., p. 17, 1824).

Founded upon *Kinosternon longicaudatum* and *K. brevicaudatum*. Both being synonyms of *Testudo scorpioides* Linn., the genus is monotypic.

> *Thyrosternum* Agass. (1857). Type *Cinosternum pennsylvanicum*.

> *Platythyra* Agass. (1857). Type *Cinosternum flavescens*.

Sternotherus Gray (Ann. of Philos., 1825, p. 193).

Type by elimination *S. odoratus* Daudin. Also by designation of Fitzinger (*Syst. Rept.*, p. 29, 1843).

Sternotherus as cited by Gray from Bell's manuscript contained *S. odorata* and *S. pennsylvanica*. The last belonging strictly to *Cinosternum* Spix, *odorata* becomes the type. This use of the name antedates by a short time *Sternotherus* Bell (*Zool. Jour.*, 11,305, 1825). *Aromochelys* Gray (1855) also has *odorata* for type.

TESTUDINIDÆ.

Chrysemys Gray (Cat. Tort., p. 27, 1844).

Founded on *Emys picta* Schweig. and *E. belli* Gray. Gray retained *picta* as the type (*Proc. Zool. Soc. Lond.*, 1869, p. 191).

> *Pseudemys* Gray (1855). Type *Pseudemys concinna*.

> *Ptychemys* Agass. (1857). Type *Ptychemys concinna*.

> *Trachemys* Agass. (1857). Type *Trachemys scabra*.

> *Deirochelys* Agass. (1857). Type *Deirochelys reticulata*.

> *Callichelys* Gray (1863). Type *Emys ornata*.

Malacoclemmys¹ Gray (Cat. Tort., p. 27, 1844).

Monotype *Testudo concentrica* Shaw (= *Testudo terrapin* Schoepff).

> *Graptemys* Agass. (1857). Type *Graptemys geographica*.

Clemmys Ritgen (Nova Acta Acad. Leop. Car., XIV, pt. 1, 272, 1828).

Type by elimination *Emys punctata* (= *Testudo guttata* Schn.).

= *Chelopus* Rafin. (1832). Same type.

= *Nonemys* Agass. (1857). Same type.

> *Calemys* Agass. (1857). Type *Calemys muhlenbergi*.

> *Glyptemys* Agass. (1857). Type *Glyptemys insculptus*.

> *Actinemys* Agass. (1857). Type *Actinemys marmorata*.

Emys Oppel (Ord. Fam. Rept., p. 11, 1811).²

Oppel cited three species:

¹ Written *Malaclemys* by Gray, but stated by him to be a mistake.

²*Emys* Duméril (*Zool. Anal.*, p. 76, 1806) is not used in a properly generic sense and has no standing.

"Sterno antice mobile—*E. lutaria*."

"Sterno cruciforme { *serpentina*" = *Chelydra* Schw., 1814.
 { *longicollis*" < *Chelodina* Fitz., 1826.

Emys lutaria was also designated as the type by Fitzinger in 1843, under the name of *Emys europæa* Schw.

= *Emydoidea* Gray (1870). Type *Emys Blandingii*.

Terrapene Merrem (Tent. Syst. Amph., p. 27, 1820).

Type *T. clausa* Merr. (= *Testudo carolina* Linn.). By designation of Gray (*Ann. of Philos.*, X, 1825, p. 192).

Cistudo Fleming (*Phil. Zool.*, II, p. 270, 1822), often used for these turtles, is wanting in definition and in any case is an exact synonym of *Terrapene* Merrem, two years its senior, both being founded on Cuvier's "tortues a boite."

Didicla Rafin. (*Atl. Journal*, 1832, p. 64) has *T. clausa* for type and is also a synonym.

Testudo Linn. (*Syst. Nat.*, Ed. X, p. 197, 1758).

Type *Testudo graeca* Linn. By designation of Fitzinger (*Syst. Rept.*, 29, 1843).

> *Gopherus* Rafin. (1832). Type *Testudo polyphemus*.
 > *Xerobates* Agass. (1857). Type *Testudo berlandieri*.

CHELONIDÆ.

Chelonia Latreille (*Hist. Nat. Rept.*, 1, p. 22, 1802).

Type *Testudo mydas* Linn. By original designation. This genus is often attributed to Brongniart (*Bull. Soc. Philom.*, 11, p. 89, 1800). In that place, however, it rests upon these words only, "G. Chelone-Chelonia (ce sont les tortues de mer)," and is a *nomen nudum*.

Caretta Rafin. (*Speccio Sci. (Palermo)*, 11, 66, 1814).

Monotype *C. nasuta* Raf. (= *T. caretta* Linn.).

Rafinesque's words are "*Caretta nasuta* Raf., *Testudo caretta* Linn."

= *Thalassochelys* Fitz. (1835). Same type.

Eretmochelys Fitz. (*Syst. Rept.*, p. 30, 1843).

Type *Chelonia imbricata* Cuv. By original designation.

TRIONYCHIDÆ.

Platypeltis Fitz. (*Ann. Wien Mus.*, 1, pp. 120, 127, 1835).

Type *Platypeltis ferox* Schweig.

The two species named by Fitzinger, *Trionyx brongniartii* Schw. and *T. ferox* Schw. are identical, and the genus is therefore monotypic. The same species was designated by Fitzinger (*Syst. Rept.*, 30, 1843).

Amyda Oken (1816). Type *Trionyx euphraticus*.

Aspidonectes Wagl. (1830). Type *Trionyx aegypticus*.

SQUAMATA.

Correctly outlined by Merrem (*Tent. Syst. Amph.*, p. 39, 1820) with groups (I) *Gradientia*, (II) *Repentia*, (III) *Serpentia*.

Oppel used *Squamata* in 1811 with groups (I) *saurii*, (II) *ophidii*, but he included crocodiles in *saurii*.

LACERTILIA.

Authors previous to Owen either included with lizards the crocodiles, or omitted serpentiform lizards, under the names *Gradientia*, "sauriens," or *saurii*. They were first correctly delimited under the name *Lacertilia* by Owen (*Rep. Br. Ass. Adv. of Sc.*, 1841, p. 162).

GECKONIDÆ.

Phyllodaactylus Gray (*Spicilegia Zoologica*, p. 3, 1830).

Monotype *Phyllodaactylus pulcher* Gray.

Sphærodaactylus Wagl. (*Syst. Amph.*, p. 143, 1830).

Type *Sphærodaactylus sputator* Sparr. By designation of Fitzinger (*Syst. Rept.*, 18, 1843). It was also the only one of Wagler's species retained in the genus by Gray (1831) and Duméril and Bibron (1836).

EUBLEPHARIDÆ.

Coleonix Gray (*Ann. Mag. Nat. Hist.*, 1845, 162).

Type *Coleonyx elegans* Gray. By designation of Boulenger (*Cat. Liz. Br. Mus.*, 1, p. 234, 1885).

IGUANIDÆ.

Anolis Daudin (*Hist. Nat. Rept.*, IV, p. 50, 1803).

According to Dr. Stejneger (*Herp. of Porto Rico*, 625, 1904) the type of *Anolis* is *A. bullaris*. But the pertinency of this name to any known species is far from certain. *Lacerta bullaris* Linn. rests on Catesby's plate 66, "*Lacerta viridis jamaicensis*," whose recognition is chiefly an act of faith. No other of the early authors added exactness to its use. *A. bullaris* Daud. (*l. c.*, p. 69) is based on *L. bullaris* Linn., adding thereto Catesby's plate 65, "*Lacerta viridis carolinensis*," and another unassignable Linnean name, *L. strumosa*. Duméril and Bibron (*Vol. 4*, pp. 117, 120) divide *A. bullaris* Daud. into *A. chloro-cyanus* and *A. carolinensis*, considering the first of these species to be questionably *L. bullaris* Linn. As *A. carolinensis* D. and B. rests on a firm basis in Catesby, it would seem that this name should not be disturbed, and that *bullaris* of authors should be permitted to remain in obscurity.

Ctenosaura Wiegman (Isis, 1828, p. 371).

Monotype *Ctenosaura cycluroides* Wieg. (= *Lacerta acanthura* Shaw).

Dipsosaurus Hallowell (Proc. Acad. Nat. Sci. Phila., 1854, 92).

Monotype *Crotaphytus dorsalis* B. and G.

Crotaphytus Holbrook (No. Am. Herp., II, p. 79, 1842).

Monotype *Agama collaris* Say.

Sauromalus Duméril (Arch. du Mus., VIII, 535, 1856).

Monotype *Sauromalus ater* Dum.

Callisaurus Blainville (Nouv. Ann. du Mus., IV, 286, 1835).

Type *Callisaurus draconoides* Blain. By original designation.

Uma Baird (Proc. Acad. Nat. Sci. Phila., 1858, p. 253).

Monotype *Uma notata* Bd.

Holbrookia Girard (Proc. A. A. A. Science, IV, 201, 1851).

Monotype *Holbrookia maculata* Gir.

Uta Baird and Girard (Stans. Exp. Gr. Salt Lake, 344, 1852).

Type *Uta stansburiana* B. and G. By original designation.

Sceloporus Wiegman (Isis, 1828, p. 369).

Type *Sceloporus torquatus* Wieg. By designation of Fitzinger (*Syst. Rept.*, p. 17, 1843).

Phrynosoma Wiegman (Isis, 1828, p. 367).

Subgenus *Phrynosoma* Wieg. Type *Lacerta orbicularis* Linn. By designation of Wiegman (*Herp. Mex.*, 18, 1834).

Subgenus *Anota* Hallowell (*Proc. Acad. Nat. Sci. Phila.*, 1852, p. 182).

Monotype *Anota McCallii* Hallow.

HELODERMATIDÆ.

Heloderma Wiegman (Isis, 1829, p. 627).

Monotype *Heloderma horridum* Wieg.

ANGUIDÆ.

Ophisaurus Daudin (Hist. Rept., VII, 346, 1803).

Monotype *Anguis ventralis* Linn.

Diploglossus Wiegman (Herp. Mex., 36, 1834).

Type *Tiliqua fasciata* Gray. By designation of Dum. and Bib. (*Erp. Gen.*, V, 588, 1839).³

Subgenus *Celestus* Gray (*Ann. Mag. Nat. Hist.*, 1839, p. 288).

Monotype *Celestus striatus* Gray.

³ The subgenus *Diploglossus* is extra limital.

Gerrhonotus Wiegman (Isis, 1828, p. 379).

Subgenus *Gerrhonotus* Wieg. Type *Gerrhonotus tessellatus* Wieg. (= *G. liocephalus* Wieg.). By designation of Fitzinger (*Syst. Rept.*, 21, 1843).

Subgenus *Barissia* Gray (*Ann. Mag. Nat. Hist.*, 1838, p. 390). Type *Barissia imbricata* Gray. By designation of Stejneger (*Proc. U. S. Nat. Mus.*, XIII, 183, 1890).

XANTUSIIDÆ.

Xantusia Baird (Proc. Acad. Nat. Sci. Phila., 1858, p. 255).

Monotype *Xantusia vigilis* Bd.

Zablepsis Cope (Amer. Naturalist, 1895, p. 758).

Type *Xantusia henshawi* Stej. By original designation.

Amæbopsis Cope (Amer. Naturalist, 1895, p. 758).

Type *Xantusia gilberti* Van Den. By original designation.

TEIIDÆ.

Cnemidophorus Wagler (*Syst. Amph.*, 154, 1830).

Subgenus *Cnemidophorus* Wagl. Type *Seps murinus* Laur. By designation of Fitzinger (*Syst. Rept.*, 20, 1843). Dr. H. Gadow, in an interesting analysis of this genus (*P. Z. S. London*, 1906, 1, p. 288), makes reference to *C. sexlineatus* as being the type. But in no way could this be, for it is not one of the species enumerated by Wagler.

Subgenus *Verticaria* Cope (*Proc. Am. Phil. Soc.*, 1869, p. 158). Type *Cnemidophorus hyperythrus* Cope. By original designation.

SCINCIDÆ.

Lygosoma Gray (Zool. Journal, III, 1827, p. 228).

Monotype *Lacerta serpens* Bloch (= *L. chalcides* Linn.).

Subgenus *Liolepisma* Dum. and Bib. (*Erp. Gen.*, V, 742, 1839).

Monotype *Scincus teljairi* Desj.

= *Oligosoma* Girard (1857). Type *Mocoo zelandica*.

Plestiodon Dum. and Bib. (*Erp. Gen.*, V, 697, 1839).

Type *Lacerta quinquelineata* Linn. By designation of Fitzinger (*Syst. Rept.*, p. 22, 1843).

Eumeces Wiegman (*Herp. Mex.*, p. 36, 1834) can not be used for this genus. Wiegman included in it three species:

1. *Scincus pavimentatus* Geoff. < *Plestiodon* D. and B., 1839.
 2. *Scincus rufescens* Merrem = type of *Eumeces* Fitz., 1843.
 3. *Scincus punctatus* Schn. = type of *Eumeces* D. and B., 1839.
- The selection of *S. punctatus* Schn. (not *Riopa punctata* Gray, 1839)

as type by Duméril and Bibron (Vol. V, p. 630) ties *Eumeces* to a section of skinks with unseparated pterygoids. The available name for the present genus seems to be *Plestiodon*.

ANELYTROPIDÆ.

Anelytropsis Cope (Proc. Am. Phila. Soc., 1855, p. 380).

Monotype *Anelytropsis papillosus* Cope.

ANNIELLIDÆ.

Anniella Gray (Ann. Mag. Nat. Hist., 1852, p. 440).

Monotype *Anniella pulchra* Gray.

EUCHIROTIDÆ.

Euchirotes Cope (Amer. Naturalist, 1894, p. 436).

Monotype *Euchirotes biporus* Cope.

AMPHISBÆNIDÆ.

Rhineura Cope (Proc. Acad. Nat. Sci. Phila., 1861, p. 75).

Type *Lepidosternum floridana* Bd. By original designation.

OPHIDIA.

Serpentes Linn. included snakes, amphispænians and cæcilians, as also did *Serpentia* Laur. (1768) and *Ophidii* Daudin (1803). *Serpentes* Duméril (1806) included cæcilians. *Ophidii* Oppel (1811) and *Serpentia* Merrem (1820) included amphispænians. The serpents were first cleared of unrelated forms by Gray, using the name *Ophidii* (*Ann. of Philos.*, 1825, p. 204).

LEPTOTYPHLOPIDÆ.

Leptotyphlops Fitzinger (Syst. Rept., p. 24, 1843).

Type *Typhlops nigricans* Schlegel. By original designation.

= *Glauconia* Gray (1845). Type *Typhlops nigricans*.

> *Rena* B. and G. (1853). Type *Rena dulcis* B. and G.

> *Siagonodon* Peters (1881). Type *Typhlops septemstriatus* Schn.

BOIDÆ.

Lichanura Cope (Proc. Acad. Nat. Sci. Phila., 1861, p. 304).

Monotype *Lichanura trivirgata* Cope.

Charina Gray (Cat. Sn. Br. Mus., p. 113, 1849).

Monotype *Tortrix bottæ* Blain.

= *Wenona* B. and G. (1853). Type *Wenona plumbea* B. and G.

COLUBRIDÆ.

Tropidonotus Boié (*Isis*, 1826, I, p. 204).

Type *Coluber natrix* Linn. By designation of Boié (*Isis*, 1827, p. 518).

- = *Natrix* Laur. (Cope, 1888). Not Cope, 1862.
- > *Nerodia* B. and G. (1853). Type *Coluber sipedon* Linn.
- > *Regina* B. and G. (1853). Type *Coluber leberis* Linn.
- > *Clonophis* Cope (1888). Type *Regina kirtlandii* Kenn.

The use of *Natrix* Laur. for this genus does not appear to me obligatory or excusable. The rule under which types of undefined genera are accepted does not constrain or even imply that, in the case of an originally defined genus, a species must be accepted as type having characters contrary to the definition. If it did so, the only consistent course would be to admit that the Code does not consider definitions at all. It was pointed out by me (*Science*, July 6, 1907, p. 117) that of the fourteen recognizable species cited by Laurenti under *Natrix*, now distributed among eight genera, the two belonging to the present genus are the only ones at diametric variance with "*Truncus glaber nitidus*," which is the sole character of diagnostic value in the definition.

Because Fleming (*Philos. of Zool.*, II, p. 291, 1822) chose to select an unconforming type for *Natrix* in *T. torquata* (= *Coluber natrix* Linn.), or because the rule of "type by tautonomy" could be applied to the case, it does not follow that we are compelled to use *Natrix*. It is still open to rejection for any group as a meaningless conglomerate. It is also questionable whether Fleming's citation of a species after some of the genera given by him constitutes selection of a type in accordance with paragraph 11g of Article 30.

As first published in a posthumous letter from Kuhl (*Isis*, 1822, p. 473) *Tropidonotus* is a *nomen nudum*. But four years later it was well defined by Boié (*Isis*, 1826, I, 204), who credited it to Kuhl, and named under it *Coluber natrix* Linn. and *viperinus* Daudin. The following year he definitely fixed *natrix* as the type.

Thamnophis Fitzinger (*Syst. Rept.*, p. 26, 1843).

- Type *Tropidonotus sauritus* Schl. By original designation.
- = *Eutenia* B. and G. (1853). Same type.
- > *Atomarchus* Cope (1883). Type *Atomarchus multimaculatus* Cope.
- > *Stypocemus* Cope (1875). Type *Stypocemus rufo punctatus* Cope, by substitution for *Chilopoma* Cope, preoccupied.

Tropidoclonium Cope (*Proc. Acad. Nat. Sci. Phila.*, 1860, p. 76).

Type *Microps lineatum* Hallow. By original designation.

Seminatrix Cope (*Amer. Naturalist*, 1895, p. 678).

Type *Seminatrix pygæus* Cope. By original designation.

Helicops Wagler (Syst. Amph., 170, 1830).

Type *Helicops carinicaudatus* Wagl. By designation of Fitzinger (*Syst. Rept.*, 25, 1843).

> *Liodytes* Cope (1855). Type *Helicops alleni* Garm.

Amphiardis Cope (Proc. U. S. Nat. Mus., 1888, p. 391).

Type *Virginia inornata* Garm. By original designation.

Haldea B. and G. (Cat. No. Am. Serp., 122, 1853).

Type *Coluber striatula* Linn. By original designation.

Storeria B. and G. (Cat. No. Am. Serp., 135, 1853).

Type *Tropidonotus dekayi* Holb. By original designation.

= *Ischnognathus* Dum. and Bib. (1853). Same type.

Drymarchon Fitzinger (Syst. Rept., 26, 1843).

Type *Coluber corais* Daudin. By original designation.

< *Spilotes* Wagler (1830). Type *S. pullatus*.

= *Composoma* Cope (1895). No type. = *Composoma* Dum. and Bib. part.

= *Georgia* B. and G. (1853). Type *Coluber couperi* Holb.

Drymobius Fitzinger (Syst. Rept., 26, 1843).

Type *Herpetodryas margaritifera* Schl. By original designation.

Callopeltis (Fitz.) Bonap. (Icon. Fauna Ital., Vol. II, and Mém. Acad. Torino (2), 11, 401, 1840).

Type *Coluber leopardinus*. By original designation of Fitzinger.

= *Coluber auctores*.

> *Scotophis* B. and G. (1853). Type *Coluber allegheniensis* Holb.

= *Natrix* Laur. (Cope, 1862). Not Cope, 1888.

Arizona Kenn. (U. S. Mex. Bound. Surv., 18, 1859).

Monotype *Arizona elegans* Kenn.

< *Rhinechis* Micah. (1833). Type *Rhinechis scalaris*.

Pityophis Holbrook (No. Am. Herp., IV, 7, 1842).

Monotype *Coluber melanoleucus* Daudin.

Coluber Linn (Syst. Nat. Ed., X, 216, 1758).

Type *Coluber constrictor* Linn. By designation of Fitzinger (*Syst. Rept.*, 26, 1843).

= *Zamenis* Wagler (1830). Type *Natrix gemonensis* Laur.

> *Bascanium* B. and G. (1853). Type *Coluber constrictor* Linn.

> *Masticophis* B. and G. (1853). Type *Coluber flagellum* Shaw.

Under the new Rule 30 we are no longer bound to Laurenti's notion, as first reviser, of the limits of *Coluber* and are therefore freed from the consideration of Dr. Stejneger's proposal (*Herp. of Japan*, pp. 307, 443, 1907) to transfer the name to the genus otherwise known as *Vipera* Laur.—a change which would have been serious in view of all the connotations of the word "coluber." The present shifting of the term to replace *Bascanium*, following Fitzinger's selection of a type,

long antedates Collett's designation of *Vipera ferus* and has the good fortune to preserve both the long established family names *Colubridæ* and *Viperidæ*.

Salvadora B. and G. (Cat. No. Am. Serp., 104, 1853).

Type *Salvadora Grahamia* B. and G. By original designation.

= *Phimothyra* Cope (1860). Same type.

Phyllorhynchus Stejneger (Proc. U. S. Nat. Mus., 1890, p. 151).

Type *Phyllorhynchus browni* Stej. By original designation.

Opheodrys Fitzinger (Syst. Rept., 26, 1843).

Type *Herpetodryas æstivus* Schl. By original designation.

< *Leptophis* Bell (1826). Type *Leptophis ahautilla*.

< *Cyclophis* Gunther (1858). Type *Herpetodryas tricolor*.

Liopeltis Fitzinger (Syst. Rept., 26, 1843).

Type *Herpetodryas tricolor* Schl. By original designation.

> *Chlorosoma* B. and G. (1853). Type *Coluber vernalis* DeKay.

Contia B. and G. (Cat. No. Am. Serp., 110, 1853).

Type *Contia mitis* Bd. By original designation.

Pseudoficimia Bocourt (Miss. Sci. au Mex., 572, 1883)

Monotype *Pseudoficimia pulchra* Boc.

Conopsis Günther (Cat. Sn. Br. Mus., 6, 1858).

Monotype *Conopsis nasus* Gunth.

Toluca Kennieott (U. S. and Mex. Bound. Surv., 23, 1859).

Monotype *Toluca lineata* Kenn.

Diadophis B. and G. (Cat. No. Am. Serp., 112, 1853).

Type *Coluber punctatus* Linn. By original designation.

Lampropeltis Fitzinger (Syst. Rept., 25, 1843).

Type *Herpetodryas getulus* Schl. By original designation.

= *Ophibolus* B. and G. (1853). Type *Coronella sayi* Holb.

> *Osceola* B. and G. (1853). Type *Calamaria elapsoides* Holb.

Stilosoma A. Brown (Proc. Acad. Nat. Sci. Phila., 199, 1890).

Monotype *Stilosoma extenuatum* A. Brown.

Carphophis Gervais (Dict. Hist. Nat. d'Orbigny, III, 191, 1843).

Monotype *Coluber amœnus* Say.

> *Carphophiops* Gervais (1843). Type *C. vermiformis*.

= *Celuta* B. and G. (1853). Type *Coluber amœnus* Say.

= *Brachyorros* Holbrook (1842). Same type. Not of Boié (1827).

Farancia Gray (Zool. Misc., p. 68, 1842).

Monotype *Farancia Drummondi* Gray (= *Coluber abacurus* Holb.).

Abastor Gray (Cat. Sn. Br. Mus., p. 78, 1849).

Monotype *Helicops erythrogrammus* Wagler.

Virginia B. and G. (Cat. No. Am. Serp., p. 127, 1853).

Type *Virginia Valeria* B. and G. By original designation.

Ficimia Gray (Cat. Sn. Br. Mus., p. 80, 1849).

Monotype *Ficimia olivacea* Gray.

Chilomeniscus Cope (Proc. Acad. Nat. Sci. Phila., 1860, p. 339).

Monotype *Chilomeniscus stramineus* Cope.

Cemophora Cope (Proc. Acad. Nat. Sci. Phila., 1860, p. 244).

Type *Coluber coccineus* Blum. By original designation.

Rhinochilus B. and G. (Cat. No. Am. Serp., p. 120, 1853).

Type *Rhinochilus Lecontei* B. and G. By original designation.

Hypsiglena Cope (Proc. Acad. Nat. Sci. Phila., 1860, p. 246).

Type *Hypsiglena ochrorhyncha* Cope. By original designation.

Rhadinea Cope (Proc. Acad. Nat. Sci. Phila., 1863, p. 10).

Type *Taniophis vermiculaticeps* Cope. By original designation.

Prof. Cope subsequently (*Proc. Acad. Nat. Sci. Phila.*, 1868, 132) named *R. melanocephala* D. and B. as the type, and again (*Rep. U. S. Nat. Mus.*, 1898, p. 754) he says the type is *R. obtusa* Cope. The genus was, however, distinctly founded upon *T. vermiculaticeps* on its first publication in 1863.

Heterodon Latreille (Hist. Nat. des Rept., IV, p. 32, 1800).

Monotype *Heterodon platyrhinus* Latr.

Trimorphodon Cope (Proc. Acad. Nat. Sci. Phila., 1861, p. 297).

Type *Trimorphodon lyrophanes* Cope. By original designation.

Leptodira Fitzinger (Syst. Rept., p. 27, 1843).

Type *Dipsas annulatus* Schl. By original designation. *Sibon* Fitz. (*Neue Class Rept.*, 1826, p. 29) can not be used for this genus of opisthoglyph snakes. It has, by tautonomy, for type *Coluber nebulatus* Linn. (= *Coluber sibon* Linn.), which is the type of *Petalognathus* Dum. and Bib.

Manolepis Cope (Proc. Am. Philos. Soc., 1885, p. 76).

Type *Tomodon nasutus* Cope. By original designation.

Conophis Peters (Monats. Berl. Acad., 1860, p. 519).

Monotype *Conophis vittatus* Peters.

Erythrolamprus Boié (Isis, 1826, p. 981).

Monotype *Coluber venustissimus* Pr. Max.

= *Coniophanes* Hallow. (1860). Type *C. fissidens*.

Scolecophis Fitzinger (Syst. Rept., p. 25, 1843).

Type *Calamaria atrocincta* Schl. By original designation.

Tantilla B. and G. (Cat. No. Am. Serp., p. 131, 1853).

Type *Tantilla coronata* B. and G. By original designation.

= *Homalocranium* Dum. and Bib. (Erp. Gen., VII, 855, 1854). Type *H. planiceps* (not of Dum. and Bib., Mém. Acad. Sci., 1853, p. 490. Type *Calamaria brachyrorros* Hallow.).

Elaps Schneider (Hist. Amph., II, p. 289, 1801).

Type *Elaps lemniscatus* Linn. By designation of Gray (*Ann. of Philos.*, 1825, p. 206).

Fleming (*Philos. Zool.*, II, p. 295, 1822) mentions *Elaps lacteus*, but it does not appear that in this work types are selected as required by the present rule.

VIPERIDÆ.

Ancistrodon Beauvois (Trans. Am. Philos. Soc., IV, p. 381, 1799).

Monotype *Agkistrodon mokasen* Beau. (= *Boa contortrix* Linn.).

Beauvois says (p. 381) under *Agkistrodon*, "In this last division should be arranged the mokasen," which on p. 370 he refers to as *Agkistrodon mokasen*.

Sistrurus Garman (No. Am. Rept., p. 110, 1883).

Type *Crotalus miliarius* Linn. By substitution.

Crotalus Linn. (Syst. Nat., Ed. X, p. 214, 1758).

Type *Crotalus horridus* Linn. By designation of Gray (*Ann. of Philos.*, 1825, p. 205).

AMPHIBIA.

According to Dr. Stejneger *Batrachia* was used for the first time by Batsch (1788) as an exact synonym of *Salientia* Laurenti (1768), for which reason he thinks it should not be used for a division of wider scope. Brongniart (1800) had very nearly an exact conception of the contents of this class, for he even suspected that the cæcilians belong to it, but he used only the vernacular "batraciens." All other authors omitted cæcilians down to 1811, when Oppel used *Nuda* for the class, with orders (I) *Apoda*, (II) *Ecaudata*, (III) *Caudata*. Merrem (1820) used *Batrachia* with (I) *Apoda*, (II) *Salientia*, (III) *Gradientia*.

Amphibia Linn. included reptiles and amphibians, but was never used in exact form until Gray correctly applied it (*Ann. of Philos.* (n. s.), 10, p. 213, 1825).

By strict priority the name would be *Nuda* Oppel, but fortunately it is not necessary to replace a well-known class name by one so obscure.

SALIENTIA.

Salientia Laurenti (*Syn. Rept.*, p. 24, 1768) contained the genera *Rana*, *Pipa*, *Hyla* and *Bufo*, as well as *Proteus*, which seems to have been founded on a tadpole of *Rana*. It is therefore equivalent to and much older than *Ecaudata* Duméril (1806). *Anura*, attributed by Cope to Duméril, has no standing, as that author used only "anoures."

RANIDÆ.

Rana Linn. (*Syst. Nat.*, Ed. X, p. 354, 1758).

Type *Rana temporaria* Linn. By designation of Gray (*Ann. of Philos.*, 1825, p. 214).

ENGYSTOMATIDÆ.

Engystoma Fitzinger (*Neue Class Rept.*, p. 65, 1826).

Rana oralis Schneider is the only one of Fitzinger's species retained in *Engystoma* by Duméril and Bibron (*Erp. Gen.*, 8, p. 741, 1841) and is consequently the type.

Hypopachus Kerferstein (*Göttingen Nachrichten*, 1867, p. 352).

Monotype *Hypopachus Seebachii* Kerf. (= *H. variolosum* Cope).

CYSTIGNATHIDÆ.

Lithodytes Fitzinger (*Syst. Rept.*, p. 31, 1843).

Type *Hylodes lineatus* D. and B. By original designation.

Syrrophus Cope (*Amer. Naturalist*, 1878, p. 253).

Monotype *Syrrophus marnockii* Cope.

HYLIDÆ.

Chorophilus Baird (*Proc. Acad. Nat. Sci. Phila.*, 1854, p. 60).

Monotype *Cystignathus nigrinus* Holb.

Acris Dum. and Bib. (*Erp. Gen.*, 8, p. 506, 1841).

Type *Hylodes gryllus* DeKay. By designation of Baird (*Proc. Acad. Nat. Sci. Phila.*, 1854, p. 59).

Hyla Laurenti (*Syst. Rept.*, p. 32, 1768).

Type *Hyla viridis* (= *H. arborea* Linn.) *vide* Stejneger.

Smilisca Cope (*Proc. Acad. Nat. Sci. Phila.*, 1865, p. 194).

Monotype *Smilisca daulinia* Cope (= *Hyla baudinii* Dum. and Bib.).

BUFONIDÆ.

Bufo Laurenti (*Syst. Rept.*, p. 25, 1758).

Type by tautonomy *Bufo vulgaris* Laur. (= *Rana bufo* Linn.).

PELOBATIDÆ.

Scaphiopus Holbrook (No. Am. Herp., I, p. 85, 1836).

Monotype *Scaphiopus solitarius* Holb.

Spea Cope (Jour. Acad. Nat. Sci. Phila., (2), VI, p. 81, 1866).

Type *Scaphiopus bombifrons* Cope (= *S. hammondi* Baird). By original designation.

CAUDATA.

Duméril (*Zoologie Analytique*, 94, 1806), "les batraciens urodèles (caudati)." The following year (*Nouv. Bull. des Sc.*, 1807, p. 36) he, definitely says "order Caudati." *Urodela* is often based upon this reference, but Duméril used neither it nor *Anura* in Latin form.

PLEURODELIDÆ.

Diemyctylus Rafinesque (Ann. of Nature, 1820, No. 22, p. 5).

Type *Triturus viridescens*. By original designation.

DESMOGNATHIDÆ.

Desmognathus Baird (Jour. Acad. Nat. Sci. Phila., (2), I, pp. 282, 285, 1850).

Type *Triturus fuscus* Rafin.

PLETHODONTIDÆ.

Autodax Boulenger (Ann. Mag. Nat. Hist., 1887, p. 67).

Type *Anaides lugubris* Baird. By substitution for *Anaides* Baird (1849), preoccupied.

Gyrinophilus Cope (Proc. Acad. Nat. Sci. Phila., 1869, p. 108).

Monotype *Salamandra porphyriticus* Green.

Spelerpes Rafinesque (Atlantic Journal, I, p. 22, 1832).

Type *Spelerpes lucifuga* Rafin. (= *Salamandra longicauda* Green). By original designation.

Manculus Cope (Proc. Acad. Nat. Sci. Phila., 1869, pp. 95, 101).

Monotype *Salamandra quadridigitata* Holb.

Stereochilus Cope (Proc. Acad. Nat. Sci. Phila., 1869, p. 100).

Monotype *Pseudotriton marginatum* Hollow.

Plethodon Tschudi (Mém. Soc. Neuchatel, 1838, pp. 59, 92).

Type *Salamandra glutinosa* Green. By designation of Bonaparte (*Fauna Ital.*, II, 131).

Hemidaotylium Tschudi (Mém. Soc. Neuchatel, 1838, pp. 59, 94).

Type *Salamandra scutata* Schl. By original designation.

Batrachoseps Bonaparte (Fauna Ital., II, 131).

Type *Salamandra attenuata* Esch. By original designation.

AMBYSTOMIDÆ.

Dicamptodon Strauch (Mém. Acad. Sci. St. Péters., (7), XVI, No. 4, p. 68, 1870).

Monotype *Triton ensatus* Esch.

Ambystoma Tschudi (Mém. Soc. Neuchatel, 1838, pp. 57, 92).

Type *Ambystoma subviolacea* Tsch. (= *Lacerta punctata* Linn.). By original designation.

> *Lingulapsus* Cope (1887). Type *L. lepturus* Cope.

Chondrotus Cope (Amer. Naturalist, 1887, p. 88).

Type *Chondrotus tenbrosus*. By original designation.

CRYPTOBRANCHIDÆ.

Cryptobranchus Leuckart (Isis, 1821, Litt. Anz., p. 260).

Monotype *Salamandra gigantea* Barton (= *Cryptobranchus allegheniensis*).

AMPHIUMIDÆ.

Amphiuma Garden (Smith's Corres. of Linnæus, I, 599).

Type *Amphiuma means* Gard. By original designation.

PROTEIDÆ.

Necturus Rafinesque (Jour. de Phys., Vol. 88, p. 418, 1819).

Monotype *Necturus maculatus*.

Rafinesque gave the names of six species under *Necturus*, of which *maculatus* is the only one recognizable, leaving the genus practically monotypic.

SIRENIDÆ.

Siren Linn. (Syst. Nat., Ed. XII, p. 371, 1766).

Monotype *Siren lacertina* Linn.

Pseudobranchus Gray (Ann. of Philos., 1825, p. 216).

Monotype *Siren striata* LeConte.